

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. 98-038

**UPDATED WASTE DISCHARGE REQUIREMENTS AND RESCISSION OF ORDERS
NO. 88-096 AND 87-082**

**TOSCO REFINING COMPANY
SAN FRANCISCO AREA CARBON PLANT
RODEO, CONTRA COSTA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. Tosco Refining Company (hereinafter called the discharger) owns and operates a petroleum coke calcining and power generating plant in Franklin Canyon, located approximately two-miles southeast of Rodeo (Figure 1). The discharger purchased the plant from Unocal Corporation in April 1997. The facility's process area encompasses 25 asphalt-paved acres.

PURPOSE OF ORDER

2. The purpose of this order is to combine the requirements of existing orders into one order, rescind previous orders, and update the discharger's Self-Monitoring Program.

BACKGROUND

3. Waste discharge requirements for this facility have established requirements for the operation, maintenance, and monitoring of the facility's surface impoundments and groundwater wells. The facility uses rain and make-up water for plant operations, dust control, and recovery of petroleum coke fines. This water is collected in the discharger's Basin System for the recovery and recycling of coke fines and water recovery for plant operations. The Basin system was originally constructed in 1983 and consists of two concrete settling basins and a larger clay-lined Recovery/Recycle Basin. The water is taken from the Recovery/Recycle Basin for use and reuse in facility processes, creating a closed-loop system. No solid or liquid waste is generated from operating the Basin System.
4. The concrete lined settling basins serve to collect most of the coke carried by the water from the asphalted areas, for recovery. The overflow from the first concrete lined pond enters the clay-lined pond for further settling of the coke waste.
5. The concrete lined ponds and the Recovery/ Recycle Basin are underlain by silty clay material to a depth of at least 20 feet with a permeability of less than 1×10^{-6} cm/sec. Seasonal high groundwater levels may be as shallow as one-foot below ground surface.
6. The Basin System active storage capacity was increased in 1997 to prevent overtopping of the surface impoundments.

7. The following activities conducted at the facility could adversely affect water quality and are subject to these requirements:
- Approximately 94,000 gallons per day (GPD) of wastewater from the boiler and cooling tower blowdown, filter backwashing, EBMUD, and excess spray runoff from the uncalcined coke storage area is discharged to the waste management units.
 - The uncalcined coke (green coke) is stored in large piles on the asphalt pavement. The piles are sprayed with water from the Basin System for dust control. Rainwater runoff and excess-sprayed water drains from the asphalted areas back into the Basin System.
 - Approximately 2000 tons of used non-hazardous refractory brick is stored on site. The discharger submitted a brick reduction plan in December 1996. The plan indicates that over the course of five years the brick volume will be reduced by approximately 400 tons per year.

PREVIOUS WASTE DISCHARGE REQUIREMENTS ORDERS

8. The Board adopted Waste Discharge Requirements Order No. 87-082 on July 15, 1987, which established operational and self-monitoring requirements for the facility's surface impoundments. In accordance with Order No. 87-082 the discharger demonstrated that compliance with the geologic siting criteria and the liner requirements for the surface impoundments would cost substantially more than engineered alternatives.

The Board adopted Waste Discharge Requirements Order No. 88-096 on June 15, 1988. The Order updated Order No. 87-082 and granted the discharger exemptions to the construction, siting, and operating requirements for the surface impoundments. Order 88-096 required the discharger to periodically dredge the ponds, control pond overflow, and install several new monitoring wells.

GROUNDWATER AND SURFACE WATER

9. Groundwater:

Groundwater samples are collected from eight wells located near the Basin System. The groundwater wells are analyzed for the following constituents: nickel, potassium, sodium, vanadium, zinc, chloride, sulfate, total phosphorus, alkalinity, specific conductivity, total organic carbon, and total dissolved solids. There has been no indication that groundwater has been adversely impacted by the facility.

10. Recovery/Recycle Basin

A composite surface water sample is collected from the Recovery/Recycle Basin and analyzed for the following constituents: nickel, potassium, sodium, vanadium, zinc, chloride, sulfate, total phosphorus, alkalinity, specific conductivity, total organic carbon, total dissolved solids, and total petroleum hydrocarbons as diesel and gasoline.

The Fall 1997 Semi-Annual Groundwater Quality Monitoring Report reported the following elevated constituents in the Recovery/Recycle Basin Basin: nickel as high as 0.60 mg/l, vanadium as high as 0.87 mg/l, and zinc as high as 0.70 mg/l, but are within statistical control limits.

11. Surface Water:

The discharger monitors an ephemeral creek located north of the Recovery/Recycle Basin. Surface water runoff from the green coke storage area has the potential to impact the creek. The creek is sampled for nickel, vanadium, zinc, and total petroleum hydrocarbons as diesel and gasoline. There has been no indication that the creek has been adversely impacted by the facility.

BASIN PLAN

12. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

BENEFICIAL USES

13. The existing beneficial uses of Rodeo Creek and the San Pablo Bay as stated in the Basin Plan are:

- Industrial service water supply
- Water contact recreation
- Non-water contact recreation
- Fish migration and spawning
- Ocean commercial and sport fishing
- Shellfish harvesting
- Warm freshwater habitat
- Wildlife habitat
- Navigation
- Estuarine habitat
- Preservation of rare and endangered species

The existing and potential beneficial uses of local groundwater include:

- Municipal and domestic water supply
- Industrial process water supply
- Industrial service water supply
- Agricultural water supply

14. Effective July 18, 1997 many provisions of Division 3, Chapter 15 were moved into Title 27, Division 2, of the California Code of Regulations (Title 27). The new regulatory citations have been incorporated in this Order.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

15. This action is exempt from the provisions of the California Environmental Quality Act pursuant to Section 15301, Title 14 of the California Code of Regulations.
16. All the waste management units listed in this Order are subject to this Order.

17. The Board notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for discharges from the site and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
18. The Board in a public hearing heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Tosco Refining Company, their agents, successors and assigns shall meet the applicable provisions contained in Title 27, Division 2, of the California Code of Regulations and Division 7 of the California Water Code, and shall comply with the following:

A. PROHIBITIONS

1. Migration of pollutants through subsurface transport to waters of the State is prohibited.
2. The discharge of any wastes from the ponds, process waters or runoff from the coke storage areas to surface water or groundwater is prohibited.
3. There shall be no discharge of wastes to surface waters except as permitted under the National Pollutant Discharge Elimination System.
4. The treatment, discharge or storage of materials which may impact the beneficial uses of ground or surface water shall not be allowed to create a condition of pollution or nuisance as defined in Sections 13050 (l) and (m), respectively, of the California Water Code.
5. There shall be no discharges to a surface impoundment, and any residual liquids and sludges shall be removed expeditiously, if it is determined the surface impoundment is leaking or there is a surface impoundment containment system failure which causes a threat to water quality.
6. The Discharger shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:
 - a. Surface Waters
 1. Floating, suspended, or deposited macroscopic particulate matter or foam.
 2. Bottom deposits or aquatic growth.
 3. Alteration of temperature, turbidity, or apparent color beyond natural background levels.

4. Visible, floating, suspended or deposited oil or other products of petroleum origin.
5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

1. The groundwater shall not be degraded as a result of the waste disposal operations.

B. SPECIFICATIONS

Surface Impoundment Specifications:

1. The surface impoundments shall prevent migration of wastes to adjacent geologic materials, groundwater, or surface water, throughout the operation, closure, and post-closure periods.
2. All surface impoundments shall have foundations capable of supporting the containment structures and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift.
3. The materials used for containment structures shall have appropriate chemical and physical properties to ensure containment of wastes at all times. Liner permeabilities shall be determined relative to the liquids contained in the respective ponds and shall be determined by appropriate tests methods in accordance with accepted civil engineering practice.
4. The surface impoundments shall be designed, constructed and operated to withstand ground accelerations associated with the maximum credible earthquake without damage to the foundation, the containment structures, and other structures which control leachate, surface drainage, or erosion.
5. The surface impoundments shall be protected from any washout or erosion of wastes from inundation, which could occur as a result of a 100-year, 24 hour precipitation event, or as the result of flooding with a return frequency of 100 years.
6. The containment structures of the surface impoundments shall be maintained to preclude failure as a result of potential rapid geologic changes.
7. The surface impoundments shall be operated such that scouring at points of discharge and by wave action at the water line will not degrade the pond lining.

8. The pipeline discharge to surface impoundments shall be either equipped with devices, or fail-safe operating procedures, to prevent overfilling.
9. The discharger shall operate the surface impoundments according to a detailed operating and contingency plan, which will include at a minimum, procedures for routine inspection of the surface impoundments, discharge into a pond, discharge out of a pond, contingency measures if leachate is detected or problems with the containment structures are found, and notification of agencies.
10. Surface impoundments shall have sufficient freeboard to accommodate seasonal precipitation and precipitation conditions specified for each class waste management unit, but in no case less than **two-feet (vertical)** of freeboard, and shall be designed and constructed to prevent overtopping as a results of wind conditions likely to accompany such precipitation conditions.
11. During the active life of the surface impoundment, the settled solids shall be removed from the basin when the bottom solids to be measured quarterly measure an average of 12 inches thick. An inspection shall be made of the liner system to assure there is no damage to the liner system prior to refilling the impoundment.

General Specifications

12. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist, or certified engineering geologist.
13. The Discharger shall install, maintain in good working order, and operate efficiently any facility, alarm, or control system necessary to assure compliance with these Waste Discharge Requirements.
14. The Discharger shall implement any Self Monitoring and Reporting Program issued by the Executive Officer. The purpose of the Self Monitoring and Reporting Program is to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the surface impoundments, or any unreasonable impairment of beneficial uses associated with the Facility's past and present activities.
15. The discharger shall install any reasonable additional groundwater monitoring/collection devices required to fulfill the terms of any Self-Monitoring Reporting Program issued by the Executive Officer.
16. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems that arise in the future as a result of waste discharge or related operations during the operational and postclosure maintenance periods.
17. The Board shall be notified immediately of any waste containment system

failures occurring at the site. Any failure, which potentially compromises the integrity of containment structures, shall be promptly corrected after approval of the method and schedule by the Executive Officer.

18. The discharger shall notify the Board at least 180 days prior to beginning any intermediate or final closure activities. This notice shall include a statement that all closure activities will conform to the most recently approved closure plan and that the plan provides for site closure in compliance with all applicable regulations.
19. Closure of all waste management units shall be in compliance with the requirements of Section 21400, Title 27.
20. If the Board determines that any of the surface impoundments or waste containment facility is polluting or threatening to pollute State waters, the Board may require the discharger to immediately cease the discharge.
21. All monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole, prevents cross-contamination of saturated zones, and produces representative groundwater samples from discrete zones within the aquifer unit each well is intended to monitor.
22. All borings for monitoring wells shall be continuously cored, and the cores shall be archived for no less than 90 days. The drill holes shall be logged during drilling under the direct supervision of a registered geologist whose signature appears on the corresponding well log. Logs of monitoring wells shall be filed with the Department of Water Resources. All information used to construct the wells shall be submitted to the Board upon completion of the wells.
23. All soil and groundwater samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/control records for the Board staff to review.
24. If it is determined by the Executive Officer, based on groundwater monitoring information, that water quality impairment outside of any surface impoundment or waste disposal area is not improving, or continues to degrade, the discharger may be required to submit additional site specific groundwater corrective action proposals.
25. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Regional Board Executive Officer, proposing appropriate modifications to the Self-Monitoring and Reporting Program.
26. The Discharger shall comply with all applicable requirements of Title 27, which includes the water quality monitoring requirements of Chapter 3, Subchapter 3, Article 1.

C. **PROVISIONS**

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, immediately upon adoption of this Order or as provided below.
2. The discharger shall submit a **Contingency Plan** acceptable to the Executive Officer to be instituted in the event of a leak or spill from the surface impoundments. The discharger shall give immediate notification to the San Francisco Bay Regional Water Quality Control Board. The discharger shall initiate its corrective action plan to stop and contain the migration of pollutants from the site.

REPORT DUE DATE: August 31, 1998.

3. The Discharger shall obtain and maintain a **Financial Assurance Instrument** acceptable to the Executive Officer until the end of the Post-Closure Maintenance Period for any classified waste management unit subject to the California Code of Regulations Title 27, Chapter 6, Subdivision 1, Division 2. The Discharger shall submit a report every five years that either validates the Instrument's ongoing viability or proposes and substantiates any needed changes (e.g., a documented increase in the monitoring systems' ability to provide reliable early detection of a release can cause a decrease in the Instrument's financial coverage). For the purposes of planning the amount of the fund, the discharger shall assume a post-closure period of at least 30 years. However, the post-closure maintenance period shall extend as long as the wastes pose a threat to water quality.

REPORT DUE DATE: September 30, 1998, and every five years thereafter.

4. The discharger shall submit a detailed **Post Earthquake Inspection and Corrective Action Plan** acceptable to the Executive Officer to be implemented in the event of any earthquake generating ground shaking of Richter Magnitude 6.5 or greater at or within 30 miles of the Facility. The report shall describe the containment features, and ground water monitoring and leachate control facilities potentially impacted by the static and seismic deformations of the surface impoundments and waste containment systems. The plan shall provide for reporting results of the post earthquake inspection to the Board within 72 hours of the occurrence of the earthquake. Immediately after an earthquake event causing damage to any waste containment structures (surface impoundment, piping, extraction system, etc.) the corrective action plan shall be implemented and this Board shall be notified of any damage.

PLAN DUE DATE: October 31, 1998

5. The discharger shall submit, within 90 days after the closure of any waste unit, a closure certification report acceptable to the Executive Officer which documents that the area has been closed according to the requirements of this Order and

Title 27. The discharger shall certify under penalty of perjury that all closure activities were performed in accordance with the most recently approved closure plan and in accordance with all applicable regulations.

6. The discharger shall file with this Board a report acceptable to the Executive Officer of any material change or proposed change in the character, location, or quantity of the waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal areas or the ownership of the site.
7. The discharger shall immediately notify the Board of any event which in any way might compromise the integrity of the waste, leachate, or containment facilities or precipitation and drainage control structures.
8. The discharger shall maintain all devices or designated features installed in accordance with this Order such that they continue to operate as intended without interruption except as a result of failures that could not have been reasonably foreseen or prevented by the discharger.
9. The discharger shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.
10. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.
11. This Order is subject to Board review and updating, as necessary, to comply with changing state or federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.
12. Regional Board Waste Discharge Requirement Order No. 87-082 and Waste Discharge Requirement Order No. 88-096 are hereby rescinded.
13. The Discharger shall notify this Board of any previously unknown soil or groundwater contamination discovered during any subsurface investigations conducted at the Facility, which may potentially have an adverse impact on ground or surface waters.
14. The Board considers the property owner and site operator to have a continuing responsibility for correcting any problems within their reasonable control which arise in the future as a result of this waste discharge or water applied to this property during subsequent use of the land for other purposes.
15. Technical reports/plans submitted by the Discharger in compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted to

the Board on the schedule specified herein. These reports/plans shall consist of a letter report that includes the following:

- a. Identification of any obstacles which may threaten compliance with the schedule;
 - b. In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order; and,
 - c. In the self-monitoring reports, an evaluation of the current groundwater monitoring system and a proposal for modifications as appropriate.
16. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, submitted by the Discharger, shall also be provided to the following agencies:
- a. California Environmental Protection Agency, Department of Toxic Substances Control.
17. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited, or probably will be discharged in or on any waters of the state, the Discharger shall:
- a. Report such discharge to the following:
 - (1) This Regional Board at (510) 286-1255 on weekdays during office hours from 8 a.m. to 5 p.m.; and,
 - (2) The Office of Emergency Services at (800) 852-7550.
 - b. A written report shall be filed with the Regional Board within five working days and shall contain information relative to the following:
 - (1) The nature of waste or pollutant;
 - (2) The quantity involved and the duration of incident;
 - (3) The cause of spill;
 - (4) The estimated size of affected area;
 - (5) The corrective measures that have been taken or planned, and a schedule of these measures; and,
 - (6) The persons/agencies notified.
18. The Board will review this Order periodically and may revise the requirements when necessary.

19. CHANGE IN OWNERSHIP

In the event of any change in control or ownership of the Facility presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of this Order within 30 days of the change of ownership. The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

20. DUTY TO COMPLY

The discharger must comply with all conditions of these waste discharge requirements. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

21. GENERAL PROHIBITION

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code (CWC). [H & SC Section 5411, CWC Section 13263]

22. AVAILABILITY

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. [CWC Section 13263]

23. CHANGE IN DISCHARGE

In the event of a material change in the character, location, or volume of a discharge, the discharger shall file with this Regional Board a new Report of Waste Discharge. [CWC Section 13260(c)]. A material change includes, but is not limited to, the following:

- (a) Addition of a major industrial waste discharge to discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.
- (b) Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.
- (c) Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area

significantly removed from the original area potentially causing different water quality or nuisance problems.

- (d) Increase in flow beyond that specified in the waste discharge requirements.
- (e) Increase in area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements [CCR Title 23 Section 2210]

24. REVISION

These waste discharge requirements are subject to review and revision by the Regional Board. [CCR Section 13263]

25. TERMINATION

Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information. [CWC Sections 13260 and 13267]

26. VESTED RIGHTS

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the discharger from his liability under Federal, State or local laws, nor do they create a vested right for the discharger to continue the waste discharge. [CWC Section 13263(g)]

27. SEVERABILITY

Provisions of these waste discharge requirements are severable. If any provisions of these requirements are found invalid, the remainder of these requirements shall not be affected. [CWC 9213]

28. OPERATION AND MAINTENANCE

The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this order. [CWC Section 13263(f)]

29. RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or

permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the discharger is in violation of a prohibition in the applicable water Quality Control Plan. [CWC Section 13271(a)]

30. PETROLEUM RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. (CWC Section 13272]

31. ENTRY AND INSPECTION

The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the discharger's premises, in accordance with the discharger's health and safety procedures, where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this order;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this order;

- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring compliance with this order or as otherwise authorized by the California Water Code, any substances or parameters at any location. [CWC Section 13267]

32. MONITORING DEVICES

All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurements devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit where applicable, to the Executive Officer a written statement signed by a registered professional engineer certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

Unless otherwise permitted by the Regional Board Executive officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The Regional Board Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR Part 136) promulgated by the U.S. Environmental Protection Agency. [CCR Title 23, Section 2230]

33. TREATMENT

In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost. (CWC Section 13263(f))

34. DISCHARGES TO NAVIGABLE WATERS

Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act and discharge subject to a general NPDES permit must file an NPDES permit application with the Regional Board. (CCR Title 2 Section 22357)

35. ENDANGERMENT OF HEALTH AND ENVIRONMENT

The discharger shall report any noncompliance, which may endanger health or the environment. Any such information shall be provided orally to the Executive officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by case basis if the oral report has been received within 24 hours. The following occurrences must be reported to the Executive Officer within 24 hours;

- (a) Any bypass from any portion of the treatment facility.
- (b) Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
- (c) Any treatment plant upset which causes the effluent limitation of this Order to be exceeded. [CWC Sections 13263 and 13267]

36. MAINTENANCE OF RECORDS

The discharger shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive officer.

Records of monitoring information shall include:

- (a) The date, exact place, and time of sampling or measurements;
- (b) The individuals who performed the sampling or measurements;
- (c) The date(s) analyses were performed.
- (d) The individuals who performed the analyses;
- (e) The analytical techniques or method used; and
- (f) The results of such analyses.

37. All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:

- (1) For a corporation -- by a principal executive officer or the level of vice president.

- (2) For a partnership or sole proprietorship -- by a general partner or the proprietor, respectively.
- (3) For a municipality, state, federal, or other public agency -- by either a principal executive officer or ranking elected official.

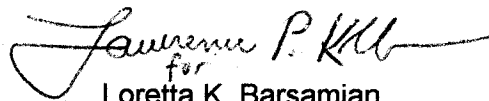
A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:

- (1) The authorization is made in writing by a person described in paragraph (a) of this provision.
- (2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
- (3) The written authorization is submitted to the executive officer.

Any person signing a document under this Section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. [CWC Sections 13263, 13267, and 13268]

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 20, 1998.

A handwritten signature in cursive script, appearing to read "Loretta K. Barsamian", with a small "for" written below the signature.

Loretta K. Barsamian
Executive Officer

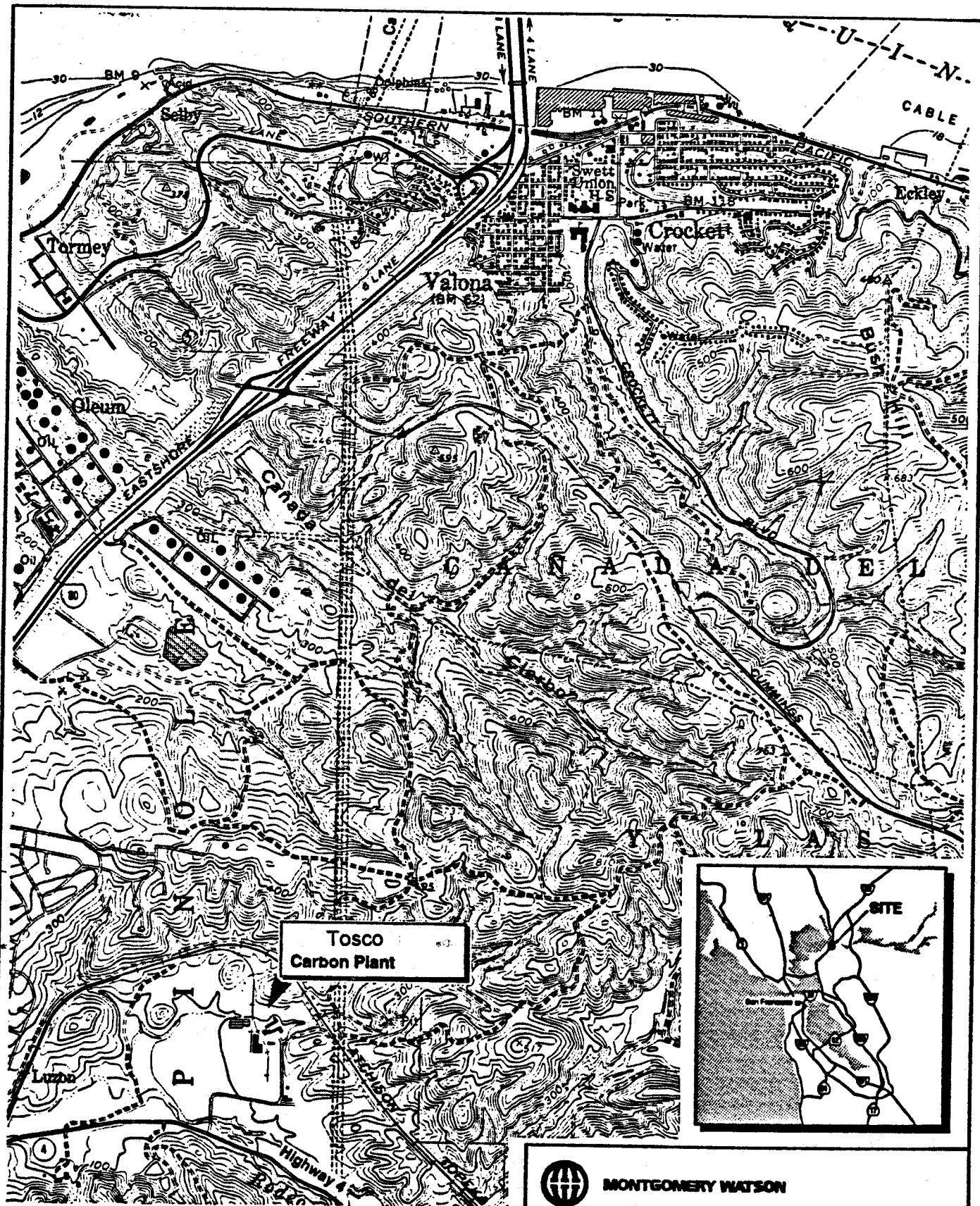
Attachments:

Figure 1: Site Location Map

Figure 2: Site Plan

Figure 3: Groundwater Elevation and Site Well location Map

Attachment 4: Self-Monitoring and Reporting Program



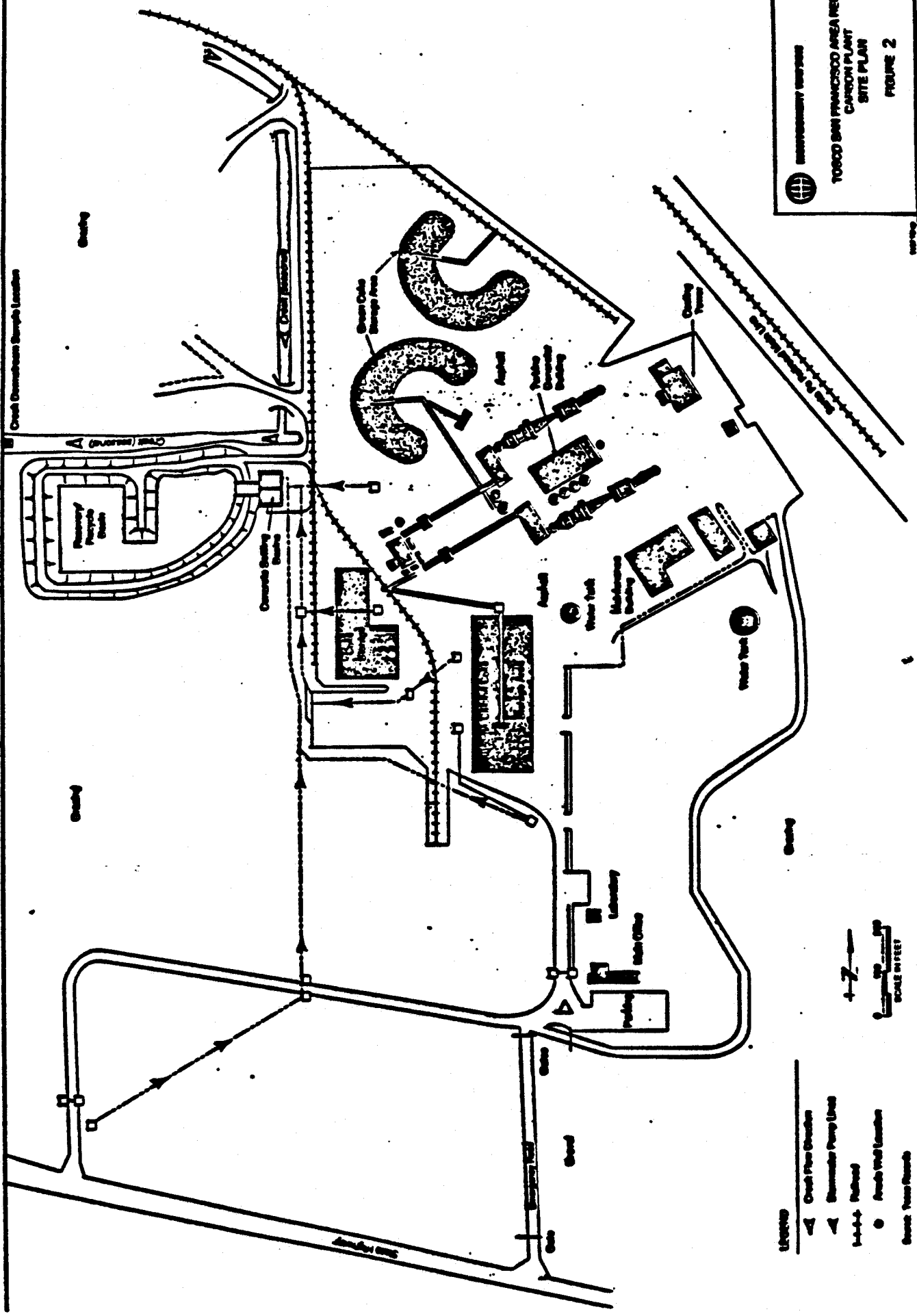
0 .5 1
SCALE IN MILES
USGS Topographic Map, 7.5', Benicia CA Quad., 1980.



MONTGOMERY WATSON

TOSCO CARBON PLANT SITE LOCATION MAP

FIGURE 1



LEGEND

- ▲ Crest Drive Direction
- ▲ Storage Tank Area
- 1-1-1-1 Refinery
- Sample Well Location
- Scale: 1:1000

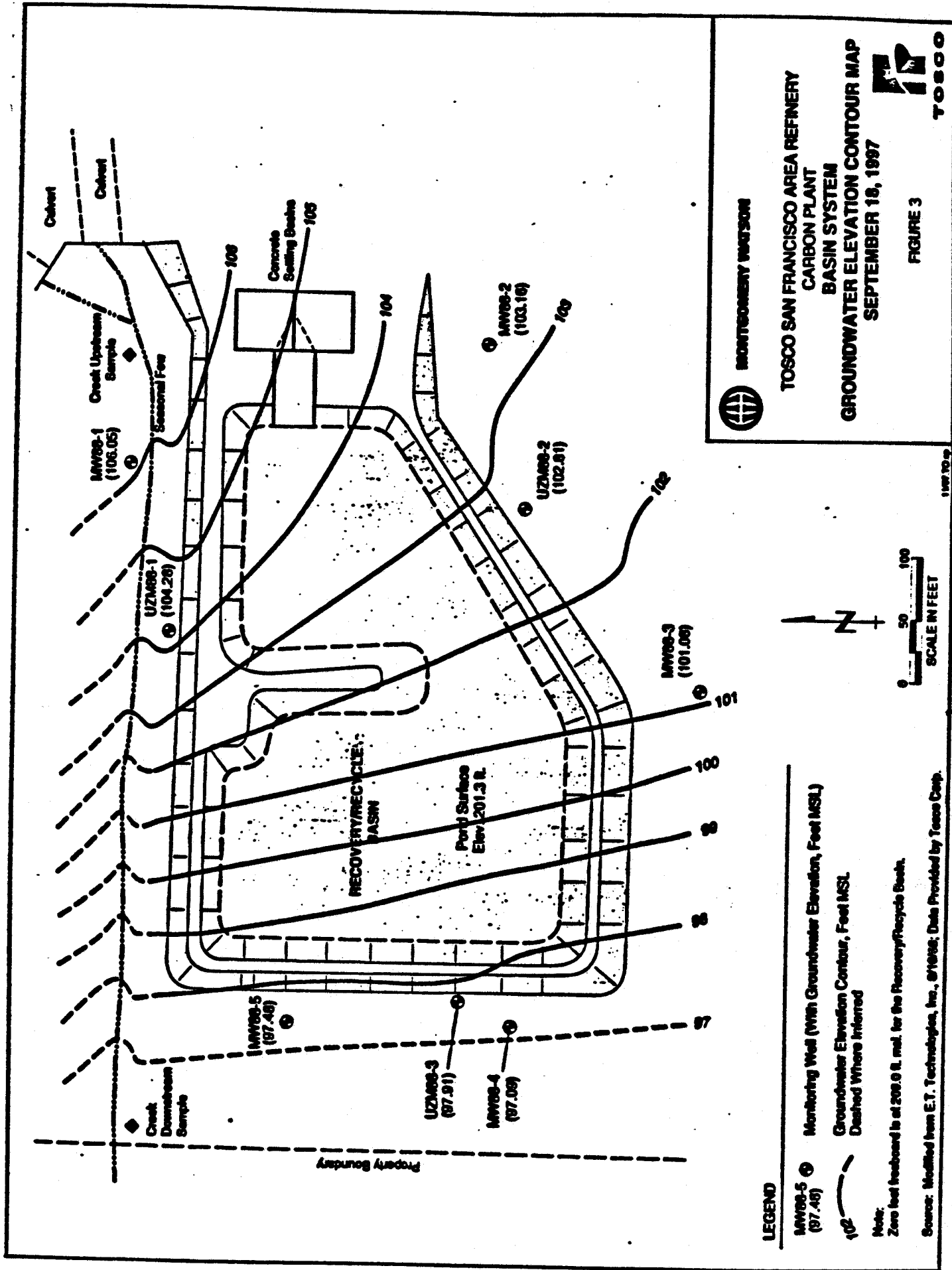
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ENVIRONMENTAL SERVICES
 TORCO SAN FRANCISCO AREA REFINERY
 CARSON PLANT
 SITE PLAN

FIGURE 2

TORCO



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

SELF-MONITORING AND REPORTING PROGRAM

FOR

**TOSCO REFINING COMPANY
SAN FRANCISCO AREA CARBON PLANT
RODEO**

CONTRA COSTA COUNTY

ORDER NO. 98-038

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Board's Resolution No. 73-16.

The principal purposes of a self monitoring and reporting program are: (1) to document compliance with Waste Discharge Requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the discharger in complying with the requirements of Chapter 3, Subchapter 3, Article 1.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA or Standard Methods and in accordance with a sampling and analysis plan approved by the Board.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.
2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwater, which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the Facility, the Facility's waste management units, surface runoff from the site, Rodeo Creek, and ultimately San Francisco Bay are considered receiving waters.
3. **Standard observations**, at the time of monitoring or in the event of unanticipated discharge, refer to:
 - a. Receiving Waters
 - 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
 - 2) Discoloration and turbidity: description of color, source, and size of affected area.
 - 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 4) Evidence of beneficial use: presence of water associated wildlife.

- 5) Evidence of algae or other unusual growth present or absent.
- 6) Flow rate.
- 7) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit.

- 1) Evidence of uncontrolled liquid leaving the waste management unit or facility, estimated size of affected area and flow rate. (Show affected area on map)
- 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

c. The waste management unit.

- 1) Evidence of algal or other unusual growth, precipitation of sludge minerals, quantity, nature and chemical composition.
- 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analyses, and observations in the following media:

1. Groundwater per Title 27, Section 20415(b)
2. Surface water per Title 27, Section 20415(c)
3. Per the general requirements specified in Title 27, Section 20415(e)

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.
5. Calculation of results.
6. Results of analyses, and laboratory reporting limits for each analysis.

F. **REPORTS TO BE FILED WITH THE BOARD**

1. The **semi-annual self monitoring reports** shall be filed on **May 30th and November 30th**. The semi-annual reports shall be comprised of at least the following:

- a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each submittal. Such a letter shall include a discussion of **any requirement violations** found during the last report period, and actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the Facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

- b. Each semi-annual monitoring report shall include a compliance evaluation summary. The summary shall contain:

- 1) Groundwater flow and direction: A description and graphic presentation of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.
- 2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature, and conductivity testing, and method of disposing of the purge water.
- 3) A written discussion of the groundwater analyses indicating any change in the quality of the groundwater.
- 4) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

- c. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.
 - d. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.
 - e. Laboratory analytical results must be included in each report. In accordance with the Executive Officer's November 5, 1996 letter, laboratory statements and other raw data are not required to be submitted, however; the data must be retained by the discharger for a minimum of six years after origination and the data must be made available for Board staff upon request. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.
 - 1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA Methods or Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.
 - 2) In addition to the results of the analyses, the laboratory QA/QC information should include the method, equipment and analytical reporting limits; the recovery rates; an explanation for any recovery rate that is less than 80% or greater than 120%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.
 - f. An evaluation of the effectiveness of the leachate/groundwater collection, monitoring, control, and removal facilities, which includes a summary of fluid volumes removed, and a discussion of the disposal/treatment methods utilized.
 - g. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.
 - h. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a 3 1/2" computer data disk, MS-DOS ASCII format, tabulating the year's data.
2. The **Annual Monitoring Report** shall be submitted to the Board covering the previous monitoring year. The Annual Self-Monitoring shall be filed by **November 30**. The annual report can be combined with the discharger's summer/fall semiannual report. The report shall contain:
- a. A Graphical Presentation of Analytical Data for each Monitoring Point, submit in graphical format the laboratory

analytical data for all samples taken. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point, at a scale appropriate to show trends or variations in water quality. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the Discharger to carry out a preliminary investigation, the results of which will determine whether or not a release is indicated;

- b. A tabular summary of all the monitoring data obtained during the previous year;
- c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements;
- d. A map showing the area, if any, in which fill has been completed during the previous calendar year; and
- e. A written summary of the groundwater analysis from the previous year indicating any change in the quality of the groundwater; and,
- f. An evaluation of the effectiveness of the leachate collection and monitoring/control facilities.
- g. A summary of the use brick recycling program, and projected future status of the program.

G. CONTINGENCY REPORTING

- a. A report shall be made by telephone of any **seepage** from any waste disposal area immediately after it is discovered. A written report shall be filed with the Board within five days thereafter. This report shall contain the following information:
 - 1) A map showing the location(s) of discharge;
 - 2) Approximate flow rate;
 - 3) Nature of effects; i.e. all pertinent observations and analyses; and
 - 4) Corrective measures underway or proposed.
- b. A report shall be made in writing to the Board within **seven days** of determining that a **statistically significant difference** occurred between a downgradient sample and a WQPS. Notification shall indicate what WQPS(s) has/have been exceeded. The discharger shall immediately resample at the compliance point where this difference has been found and re-analyze.
- c. A report shall be made by telephone of any requirement violation(s) immediately after it is discovered. A written report shall also be filed within seven days that includes a discussion of the requirement violation(s), and actions taken or planned for correcting the violation(s).

- d. If resampling and analysis confirms the earlier finding of a statistically significant difference between monitoring results and WQPS(s) the discharger must submit to the Board, an amended Report of Waste Discharge as specified in Title 27, Section 20420(k)(5) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Title 27, Section 20425.
- e. Within 180 days of determining statistically significant evidence of a release, submit to the Board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of Title 27, Section 20430. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

H. WELL LOGS

A boring log and a monitoring well construction log shall be submitted for each sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

Part B

DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. GROUNDWATER MONITORING

The discharger shall:

1. Collect groundwater samples at the compliance points.
2. Prepare a map showing all compliance points.
3. Prepare a potentiometric surface map for the Facility's Water Table.

B. GROUNDWATER MONITORING HYDROSTRATIGRAPHIC UNITS

Groundwater samples shall be collected **semiannually (summer/fall and winter/spring)** and sampled in accordance with Table 1:

Groundwater analysis shall include the following field measurements: pH, temperature, specific conductance, water level, volume purged, and number of casing volumes purged.

C. SURFACE WATER MONITORING STATIONS

Surface water samples shall be collected **semiannually (summer/fall and winter/spring)** and sampled in accordance with Table 1:

D. FACILITIES MONITORING - Observe quarterly, report semiannually

The discharger shall inspect all facilities to ensure proper and safe operation. The facilities to be monitored shall include, but not be limited to:

1. Waste containment systems;
2. Waste treatment systems;
3. Surface water retention basins;
4. Leak detection systems (where applicable); and,
5. Leachate/groundwater management facilities and secondary containment where applicable.

E. MONITORING REPORT DUE DATES


Groundwater and Surface Water

- a. Summer/Fall: November 30th.
- b. Winter/Spring: May 30th.
- c. Annual: November 30th -The annual report can be combined with the discharger's summer/fall semiannual report.

I, Loretta K. Barsamian Executive Officer, hereby certify that the foregoing Self-Monitoring and Reporting Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 98-038.
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

Date Ordered: May 20, 1998


for
Loretta K. Barsamian
Executive Officer

Attachment: Table1: Self Monitoring and Reporting Program List of Analytical Parameters and Sample Points

TABLE 1
SELF MONITORING AND REPORTING PROGRAM LIST OF ANALYTICAL PARAMETERS
AND SAMPLE POINTS

Surface Water Monitoring Stations Monitoring Schedule

Station	Monitoring Frequency	Summer/Fall Event	Winter/Spring Event
Ephemeral Creek North of R/R Basin	Semiannual	X	X

X Indicates that a surface water sample is collected for analytical laboratory testing
 Samples tested for: pH, nickel, vanadium, zinc, and total petroleum hydrocarbons as diesel and gasoline.

Groundwater Monitoring Stations Monitoring Schedule

Station	Monitoring Frequency	Summer/Fall Event	Winter/Spring Event
MW 88-1	Semiannual	X	X
MW 88-2	Semiannual	X	X
MW 88-3	Semiannual	X	X
MW 88-4	Semiannual	X	X
MW 88-5	Semiannual	X	X
UMZ 88-1	Semiannual	X	X
UMZ 88-2	Semiannual	X	X
UMZ 88-3	Semiannual	X	X

X Indicates that a groundwater sample is collected for analytical laboratory testing. Water levels and pH for each well will be collected prior to sampling.
 Samples tested for: nickel, potassium, sodium, vanadium, zinc, chloride, sulfate, total phosphorus, bicarbonate alkalinity, specific conductivity, total organic carbon, and total dissolved solids.

Recycle/Recovery Basin Surface Water Monitoring Schedule

Station	Monitoring Frequency	Summer/Fall Event	Winter/Spring Event
Composite R/R Basin Sample	Semiannual	X	X

X Indicates that a surface water sample is collected for analytical laboratory testing
 Samples tested for: nickel, potassium, sodium, vanadium, zinc, chloride, sulfate, total phosphorus, bicarbonate alkalinity, specific conductivity, total organic carbon, total dissolved solids, and total petroleum hydrocarbons as diesel and gasoline.

Observations/ Measurements

Station	Activity	Monitoring Frequency
Concrete Settling Basins (L-1, L-2)	Measure thickness of settled solids	Daily
Recycle/Recovery Basin	Measure thickness of settled solids	Quarterly
Recycle/Recovery Basin (A-1 to A-12)	Measure freeboard and general state (seepage, erosion, overflow, etc.) of Basin System	Daily
Inlet to Concrete Basin	Measure pH	Twice Per Week
Uptake from R/R Basin	Measure pH	Twice Per Week